



Upper Montgomery Joint Authority
1100 Mensch Dam Rd - P O Box 6
Pennsburg PA 18073

Lab Sample ID: 611-93
Date Received: September 24, 1993
Date Sampled: September 22, 1993
County: Montgomery
Customer Sample ID: Digester B

Analysis Report for Use of Biosolids on Cropland

October 1, 1993

RESULTS

pH	Solids	Volatile	Tot-N	Org-N	NH ₄ N	P	K	Mg	Ca	Na	Fe	Al
% dry weight basis												
6.5	1.80	49.73	3.74	3.70	.04	3.15	0.27	0.42	2.69	0.66	12.90	2.01
Mn	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	PCB	Reactive CN
mg/kg dry weight basis												
1278.1	18.8	3.9	659.5	728.3	243.8	4.13	24.6	87.6	6.6	971	< 1	< 1

NR-Not Requested

One dry ton of this material is equivalent to 13290 gallons of wet material or 55.4 tons of wet material

PRIMARY NUTRIENT CONTENT

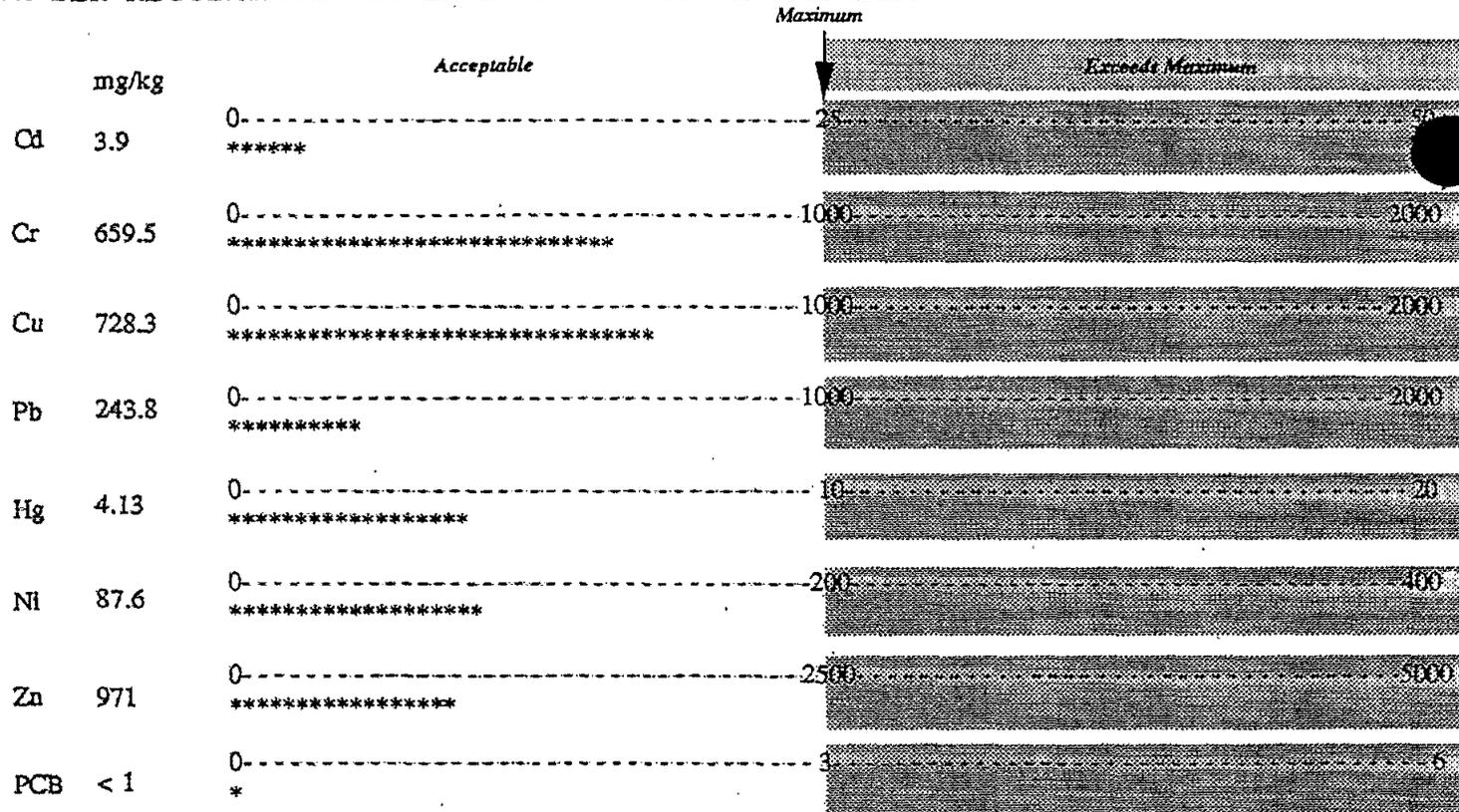
	Level	% on Dry Weight Basis
		0-----2-----4-----6-----8
Total N	3.74	*****
P ₂ O ₅	7.21	*****
K ₂ O	0.33	*

It will take 1.59 dry tons of this biosolid to supply 100 lbs of phosphorus.

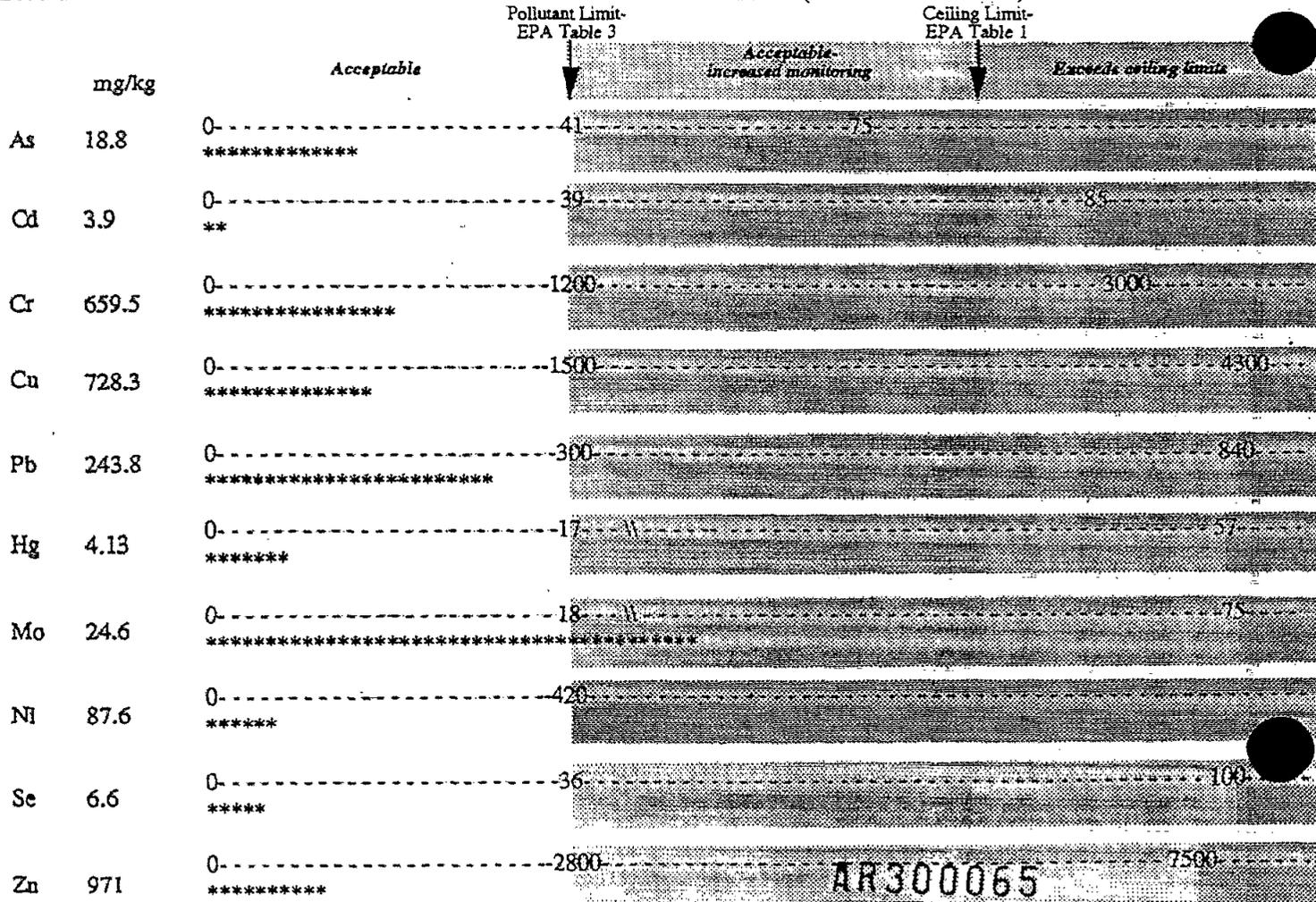
It will take 1.34 dry tons of this biosolid to supply 100 lbs of total nitrogen.

COMMENTS:

PA DER REGULATIONS FOR LAND APPLICATION of BIOSOLIDS



EPA REGULATIONS FOR LAND APPLICATION OF BIOSOLIDS (40 CFR Part 503)



AR300065

METHODS OF DETERMINATION - BIOSOLIDS

Dry Weight: oven dried overnight at 105° C

Cd, Cr, Ni, Mo, Pb, Cu, Zn, Fe, Al, Mn, Ca, Mg, Na, K, P:

Dry ashed followed by HNO₃-HCl acid digestion; elements measured by inductively coupled plasma (ICP).

As, Se:

Dry ashed followed by HNO₃ acid digestion; elements determined by atomic absorption spectrometer/graphite furnace.

Hg: EPA Test Methods for Evaluating Solid Waste, Volume 1: Method 7470

Cyanide: EPA Test Methods for Evaluating Solid Waste, Proposed Update Package Chap. 7, 7.3.3.2

PCB: EPA Test Methods for Evaluating Solid Waste, Volume 1: Method 8080 (Performed at Centre Analytical Laboratory, State College, PA)

Nitrogen (N):

total-N: micro-Kjeldahl digestion; N measured with Technicon autoanalyzer
ammonium (NH₄-N): gas electrode; potentiometer
organic (Org-N): (total N) minus (NH₄-N)

Results: expressed in parts per million (ppm) and/or percent (%) on a dry weight basis

Conversions: ppm is equivalent to ug/g and mg/kg

ppm x 10⁻⁴ = percent (%)

% x 10⁴ = ppm

% K x 1.2 = % K₂O

% P x 2.3 = % P₂O₅

Procedures:

Manual of Methods, Soil and Environmental Chemistry Laboratory, The Pennsylvania State University, Information Report 121, W. T. Doty, M. C. Amacher and D. E. Baker, Oct. 1982

DISCLAIMER STATEMENT

"Biosolid results from The Pennsylvania State University are an educational part of an ongoing Research/Extension program on the safe and beneficial use of biosolids for crop production. There are other non-analyzed components which at some future time may be found harmful to crops, the food chain, or the environment. While the results and recommendations represent the current state of technology, neither project personnel nor The Pennsylvania State University will assume responsibility for detrimental effects caused by the use of biosolids on land."

AR300066